REMARKS

The Office rejects claims 1-18 and withdraws claims 19-23 from prosecution. Applicant adds new claim 24 to this application. Claims 1-24 (2 independent claims; 24 total claims) remain pending in the application.

Support for the various amendments may be found in the originally filed specification, claims, and figures. For example, support for the addition of new claim 24 can be found at page 37 (lines 27-28) and Figures 1A, 1B, and 1C of the subject application. No new matter has been introduced by these amendments. Reconsideration of this application is respectfully requested.

35 U.S.C. §102 REJECTIONS

The Examiner rejects claims 1-17 under 35 U.S.C. §102(e) as allegedly being anticipated by Kitamura (U.S. Patent No. 6,704,421, issued March 9, 2004, assignee is ATI Technologies, Inc.). Applicant respectfully traverses the rejection.

Kitamura discloses an automatic multichannel equalization control system that uses programmable multichannel templates containing equalization control values for a programmable multichannel audio processor (that selectively controls each channel of multichannel audio using the equalization control values).[1] Kitamura discloses an automatic multichannel audio control system 12 that includes an automatic multichannel equalization controller 16, an equalization template block 28, and a user interface module 34. Equalization template block 28 stores multichannel equalizer control values as adjusted (entered) by a user to provide user selectability based on user preferences. Automatic multichannel equalization controller 16 controls a multichannel audio processor 24 via control line 30, which communicates control signal information based on preset settings in template block 28. User interface module 34 allows a user to enter data in the templates of template block 28.[2]

Programmable multichannel audio processor 24 selectively controls each channel of multichannel audio based on the equalizer control values from the multichannel equalization templates stored in the equalization template block 28.[3]

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[1] Kitamura, Abstract.
[2] Kitamura, column 3, line 26 to column 4, line 34.
[3] Kitamura, column 4, lines 8-12.

In Figure 3, Kitamura illustrates one equalization block for one channel of programmable multichannel audio processor 24. Equalization block 66 includes a compression block 68, a parametric filter block 70, a delay control stage 74, a reverb control stage 78, and volume control stage 82.[4]

In particular, parametric filter block 70 (that the Examiner alleges to be the correction section as recited in claim 1) selectively equalizes each of a plurality of frequency bands by a different control factor. Parametric filter block 70 receives parametric equalization control data 50 (i.e., equalizer control values stored in equalization template block 28) that indicates attenuation levels for each frequency band. Each parametric filter block 70 has a set of programmable audio filters that is responsive to the filter parameter control data. This is to equalize each audio channel in accordance with the equalizer control values from the equalizer template. Thereafter, parametric filter block 70 outputs filtered audio signals 73 to a delay control stage 74.[5]

Although Kitamura may appear to describe a parametric filter block 70 that equalizes audio signals (in accordance with the equalizer control values from the equalizer template), Kitamura fails to teach, advise, or suggest "a correction section for correcting the acoustic signal using the at least one filter coefficient selected by the filter coefficient selection section so that the acoustic signal matches the image signal being reproduced together" as recited in claim 1 (and claims 2-17 (and to the extent applicable new claim 24), which variously depend from claim 1) (emphasis added).

In Figure 3 of Kitamura, parametric filter block 70 (that the Examiner alleges to be the correction section as recited in claim 1) only receives two inputs: parametric equalization control data 50 and output data 72 from compression block 68.[6] Compression block 68 receives the ceiling level and floor level data 48 and adaptively reduces the dynamic range of selected portions of the audio signal.[7] Parametric equalization control data 50 represents equalizer frequency band range settings, so that

[4] Kitamura, column 5, line 41 to column 6, line 34.
[5] Kitamura, column 5, line 64 to column 6, line 17.
[6] Kitamura, column 5, line 66 to column 6, line 4.
[7] Kitamura, column 5, lines 41-48.

the user can fashion a customized equalizer for each of the multichannels.[8] Thereafter, parametric filter block 70 receives output data 72 as a stream of digital samples from compression stage 68 and parametric equalization control data 50 indicating attenuation levels for each frequency band and outputs filtered audio signals 73.[9]

Accordingly, Kitamura fails to teach or suggest "correcting the acoustic signal using the at least one filter coefficient selected by the filter coefficient selection section so that the acoustic signal matches the image signal being reproduced together" as recited in claim 1, because the aforementioned two data inputs (50, 72) in Kitamura have not been found to provide any data to parametric filter block 70 so that the audio signal matches the image signal.

Additionally, the Examiner alleges that Kitamura discloses that the acoustic signal matches the image signal as recited in claim 1 merely because Kitamura discloses that video processor 22 sends synchronization information or channel select information for multiple audio tracks or multiple language tracks through control line 32.[10] For arguments sake, if we assume for a moment that Kitamura discloses that video processor 22 sends synchronization information (so that the acoustic signal matches the image signal as alleged by the Examiner), such synchronization information fails to teach or suggest "correcting the acoustic signal using the at least one filter coefficient selected by the filter coefficient selection section so that the acoustic signal matches the image signal being reproduced together" as recited in claim 1. **Such synchronization information in Kitamura is only sent from video processor 22. As such, Kitamura fails to correct the acoustic signal using any of the equalizer control values stored in equalization template block 28 (selected by the automatic multichannel equalization controller 16), so that the acoustic signal matches the image signal. As such, Kitamura fails to teach or suggest "correcting the acoustic signal using the at least one filter coefficient selected by the filter coefficient selection section so that the acoustic signal matches the image signal being reproduced together" as recited in claim 1.**

[8] Kitamura, column 4, lines 54-61.
[9] Kitamura, column 5, line 64 to column 6, line 13.
[10] Kitamura, column 4, lines 18-21.

An exemplary advantage of the claimed invention is that signal processing apparatus 1a allows a viewer/listener 8 to listen to the sound which is matched to the image displayed by image display apparatus 7 through headphones 6. The correction performed on acoustic signal AS by correction section 5 changes in accordance with a change in image signal VS and/or a change in acoustic signal AS. As a result, viewer/listener 8 does not notice any discrepancies in a relationship between the image and the sound.[11]

In contrast to an advantage of the claimed invention, Kitamura discloses the need for a computer based automatic equalization controller for use in multichannel audio systems that accommodates varying audio formats.[12] **In this way, Kitamura fails to solve problems associated with the discrepancies in the relationship between the image and the sound being reproduced together. Indeed, Kitamura focuses on surround sound for delay and echo effects,[13] which go against matching the acoustic signal to the image signal being reproduced together.** Kitamura fails to recognize such an advantage, and consequently, fails to address it.

Thus, Kitamura fails to teach, advise, or suggest one or more of the claimed limitations, so that claims 2-17 (and to the extent applicable new claim 24) are patentable over this reference.

35 U.S.C. § 103 REJECTIONS

The Examiner rejects claim 18 under 35 U.S.C. §103(a) as allegedly being unpatentable over Kitamura as applied to claim 1 and further in view of Saito (U.S. Patent No. 3,766,547, issued October 16, 1973, assignee is Sony Corporation). Applicant respectfully traverses the rejection.

Based on the above discussion of claim 1 and the Kitamura reference, claim 18 (which depends from claim 1) is also patentable over Kitamura in view of Saito.

[11] Kitamura, page 31, line 31 to page 32, line 7.
[12] Kitamura, column 1, line 66 to column 2, line 11.
[13] Kitamura, column 1, lines 23-39, and column 6, lines 10-26.

CONCLUSION

Thus, the Applicant respectfully submits that the present application is in condition for allowance. Reconsideration of the application is thus requested. Applicant invites the Office to telephone the undersigned if he or she has any questions whatsoever regarding this Response or the present application in general.

Respectfully submitted,

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